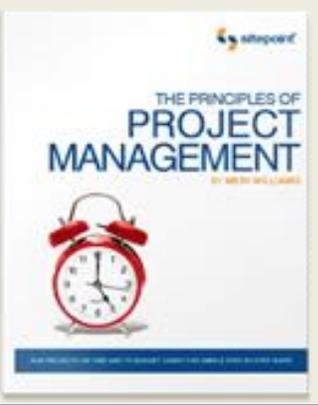
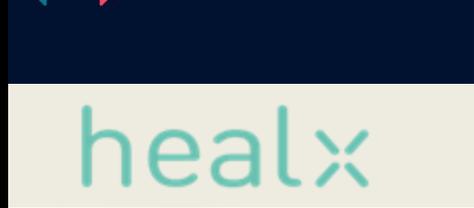


RETHINKING GROWING ENGINEERS IN THE AGE OF AI CODING

LeadDevLondon LDX3

June 2025





**AI CODING
IS
CHANGING
THINGS**

**AI CODING ASSISTANTS ARE
OFTEN REFERRED TO AS
“LIKE A JUNIOR ENGINEER”**

**AND CAPABLE OF THE WORK
JUNIORS PREVIOUSLY DID**

**BUT IF AI DOES THE
"JUNIOR ENGINEER" WORK,
THEN WHAT HAPPENS TO
THE JUNIOR ENGINEERS?**

**SOME PEOPLE SAY WE DON'T
NEED JUNIORS ANYMORE**



Updated 1 day ago

AI eliminates entry-level jobs

→ Share

By Pieter Cranenbroek, Editor at LinkedIn News 

European tech companies are increasingly deploying artificial intelligence to handle the tasks of entry-level positions, [data](#) from salary benchmarking platform RAVIO shows. Hiring rates for starter jobs in the field are [down 73.4%](#) compared to 2024 levels against a 7.4% overall hiring slowdown. The trend is not limited to Europe or the tech industry. Employment prospects for graduates in the US have ["deteriorated noticeably"](#), writes The New York Times, with unemployment among recent graduates particularly acute in finance and computer science. [Dario Amodei](#), CEO of AI startup Anthropic, recently warned that the technology could soon [eliminate](#) half of all entry-level office jobs.

<https://www.linkedin.com/news/story/ai-eliminates-entry-level-jobs-6443308/>

**DO THEY IMAGINE
SENIORS SPRING
FULLY FORMED
FROM SOMEWHERE
LIKE MINERVA
FROM JUPITER'S
FOREHEAD?!**



A close-up photograph of a man's torso. He is wearing a dark grey suit jacket over a light blue dress shirt and a white t-shirt. He is pulling the jacket open with both hands, revealing the white t-shirt underneath. The background is a solid, muted blue-grey color.

**LUCKILY
WE ARE
NOT
ALONE**



Meri Williams, ChromeRose

@Geek_Manager



**I ALSO INTERVIEWED A BUNCH OF PEOPLE
FROM ASSOCIATE ENGINEERS TO PRINCIPAL
ENGINEERS ABOUT THE SITUATION**

TRADITIONAL ASSOCIATE/JUNIOR WORK

- Well-scoped and defined tasks, often doing similar work repeatedly
- Pairing with other engineers
- Clear and rapid feedback in the form of tests passing or failing, pull request reviews and pairing with other engineers
- “A lot of looking for answers on Google and StackOverflow”
- Learning when to “struggle a bit” versus asking for help

DELIBERATE PRACTICE

- **You must be motivated** to attend to the task and **exert effort to improve your performance**.
- The design of the task should **take into account your pre-existing knowledge** so that the task can be correctly understood after a brief period of instruction.
- You should receive **immediate informative feedback** and knowledge of results of your performance.
- You should **repeatedly perform the same or similar tasks**.

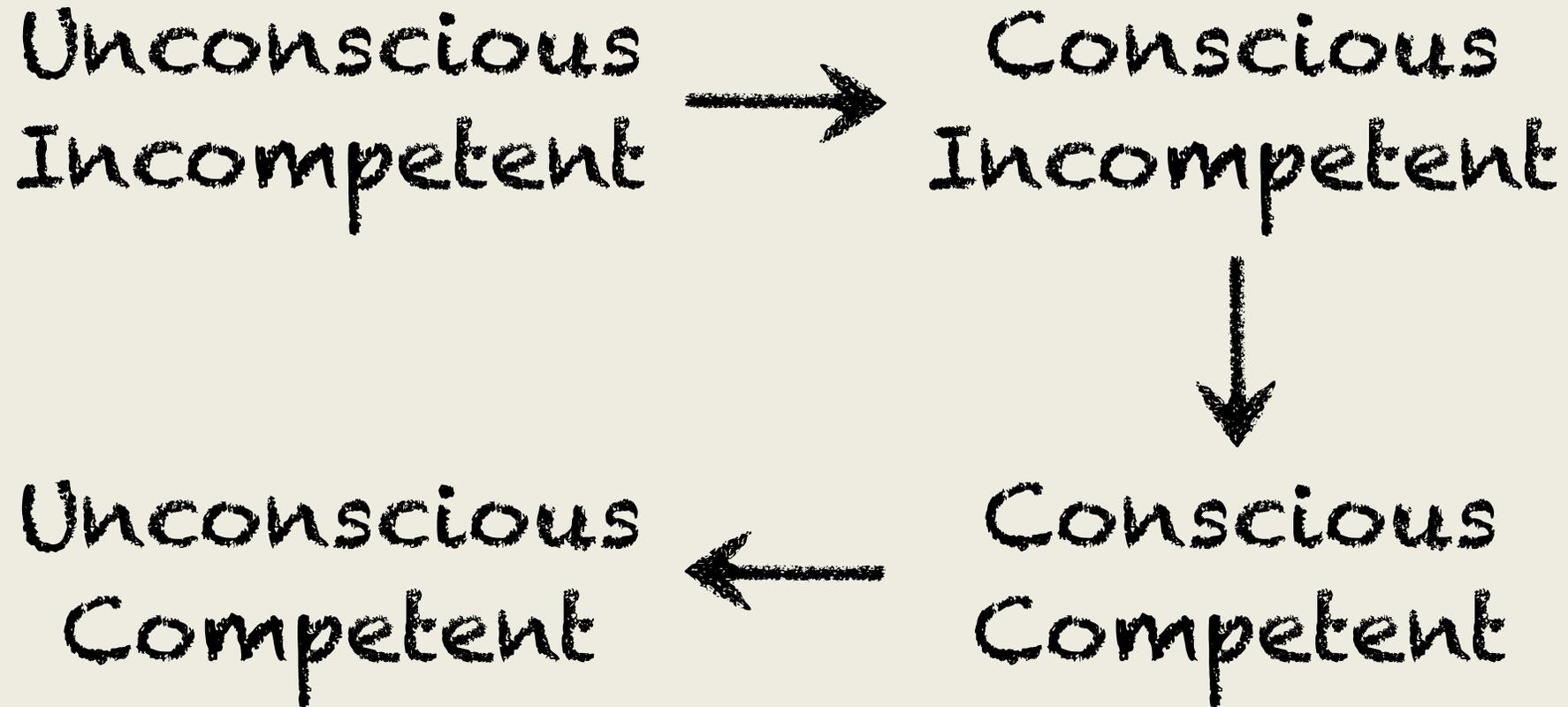
MODELS OF DELIBERATE PRACTICE

- **Sports Model** – analogous to conditioning
- **Chess Model** – what did the grand master do?
- **Music Model** – chunking & mental rehearsal

**WE LUCKED INTO WORK DESIGNED
IN A WAY THAT MAKES IT EFFECTIVE
DELIBERATE PRACTICE.**

**CHALLENGING? FEEDBACK?
REPEATED? LEARNING?**

SKILL DEVELOPMENT



**[BTW THIS IS WHY SOMETIMES YOUR
MOST EXPERT ENGINEERS ARE LEAST ABLE
TO EXPLAIN WHY THEY DO IT THE WAY
THEY DO. WHEN ASKED, THEY BULLSHIT.
BENEVOLENTLY]**

**ON THIS JOURNEY, IN THE PAST ENGINEERS
LEARNED A LOT OF STUFF BY OSMOSIS /
“FOR FREE”**

IMPORTANT FOR JUNIORS TO LEARN

- **Foundations** – how things fit together, why they are done a certain way
- **“Smells”** – telltale signs that something will go wrong (often through PR reviews)
- **Debugging skills** – figuring out the reason behind bugs
- **Refactoring skills** – fixing some of the aforementioned “smells”
- **Learning** – learning how to learn / keep current with ever-changing tech

**WITH AI CODING, WILL THEY GET AS MUCH
“FOR FREE”?**

PROBABLY NOT

**SO WHAT DO WE NEED TO DO
DIFFERENTLY?**

ADAPT TO THE NEW REALITY

- 1) TEACH FOUNDATIONS MORE ACTIVELY**
- 2) ADD NEW SKILLS NOW REQUIRED**

STILL IMPORTANT FOR JUNIORS TO LEARN

- **Foundations** – how things fit together, why they are done a certain way
- **“Smells”** – telltale signs that something will go wrong (often through PR reviews)
- **Debugging Skills** – figuring out the reason behind bugs
- **Refactoring Skills** – fixing some of the aforementioned “smells”
- **Learning** – learning how to learn / keep current with ever-changing tech

ADDITIONAL SKILLS NEEDED

- **Critical Thinking** – constantly questioning why, and where the info is coming from
- **Prompt Engineering** – or something akin to it, to get the most out of AI**
- **Code Review** – with AI writing more of the code, juniors will need to review code much much earlier in their careers than previous generations
- **Systems Thinking** – juniors can work on bigger pieces of work earlier, so they need the attending systems thinking capability to do that well

** interestingly all the associates I interviewed use AI as “an endlessly patient mentor”

**SO WHAT DO WE NEED TO LEARN TO DO
DIFFERENTLY IN THIS NEW AGE?**

ADVICE FOR SENIORS

- **Learn How To Teach** – just being a good engineer isn't enough anymore! Learn about the different modes of deliberate practice & help shape work that way
- **Always Explain WHY** – don't hide behind “best practice”, really explain why
- **Get Good At AI Yourself** – you'll get overtaken and be unable to help if you don't
- **Encourage Checking of Sources / Documentation** – healthy skepticism is A+++ especially with how frequently LLMs hallucinate



**YOU CAN'T HOLD BACK THE OCEAN, BUT
YOU CAN LEARN TO SURF**

THANK YOU TO THE FOLLOWING FOLKS

Interviewees:

- **Senior+ Engineers:** David Cloutier, Jim Barritt, Jan-Erik Lysander, Juan Manuel Incaugarat, Javier Garcia, Lisi Linhart
- **Associate & Mid-Level Engineers:** Géza Lőrincz, Johan Berg, Sam Moore, Kaiden Riley
- **Other Industries:** Lorraine Robinson (Legal), Elly Williams (Architecture)
- And everyone who shared their thoughts on LinkedIn too

Useful Presentations:

- Hywel Carver: <https://leaddev.com/technical-direction/clone-ai-and-future-software-engineering>
- Maggie Appleton: <https://maggieappleton.com/forest-talk/>



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